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Date and G.M.T.					Position Angle.			Distance.			Remarks.
					Observed.	Tabular.	T-O.	Observed.	Tabular.	T-O.	
1903.	d.	h.	m.	s.	°	°	°	″	″	″	
	11	8	33	45	315·87	316·18	+0·31	11·67	11·94	+·27	
	11	9	7	2	314·72	314·46	−0·25	11·79	12·07	+·28	
	13	8	24	15	216 73	217·26	+0·53	12·35	12·56	+·21	Satellite faint.
	15	8	32	36	81·94	82·48	+0 54	16·33	16·44	+·11	
	15	9	14	32	80·24	81·33	+1·09	16·19	16·44	+·25	
	16	10	19	44	26·92	26·98	+0·06	11·90	11·72	−·18	
	16	10	46	43	25·58	25·51	−0·07	11·73	11·62	−·11	
	21	8	38	54	77·70	77·45	−0·25	15·84	16·28	+·44	Satellite faint.
	21	9	7	50	77·16	76 65	−0·51	15·57	16·25	+·68	
	26	9	19	19	112·97	114·45	+1·48	13 72	13·88	+·16	
Apr.	14	7	59	40	55·34	57·23	+1·89	14·38	14·34	−·04	Planet partly occulted.
	16	8	17	11	274·31	276·19	+1·88	15·63	15·61	−·02	
	17	8	22	2	233·39	233·24	−0·15	14·03	13 88	−·15	
	24	8	39	47	141·01	141·93	+0·92	11·33	11·32	−·01	
	27	8	39	49	316·08	317·16	+1·08	11·80	11·63	−·17	

The Great Nebula in Auriga. By Dr. Max Wolf.

In *Astr. Nachr.* 3130 (1892 October 9) I gave a description of some recently discovered nebulæ in *Auriga.* The most remarkable of these was discovered independently by Schaeberle, E. von Gothard, and myself near the 6·7 mag. star B.D. + 34°, 980. This nebula has received the number 405 in Dreyer's Index Catalogue. Two other nebulæ then discovered were given by Dreyer the numbers 410 and 417; to the east of 417 lies the nebula G.C. 1137.

When photographing the region of Nova *Aurigæ* with the two 16-inch Brashear lenses on the evening of 1902 March 6 with five hours' exposure I found a large diffused nebulosity at the edge of the plates near the places of the above-named nebulæ. In the present year, on 1903 February 19, I took a further photograph with the region in the centre of the field of my two 16-inch lenses.

The plates were exposed from $7^h\ 9^m$ to $12^h\ 14^m$ Koenigstuhl M.T. They show such interesting nebulosities that I send the accompanying pictures to the Society.

The reproduction (plate 20) is an untouched contact print from one of the original plates. A great part of the plate is covered with nebulosity, condensed around five bright groups,

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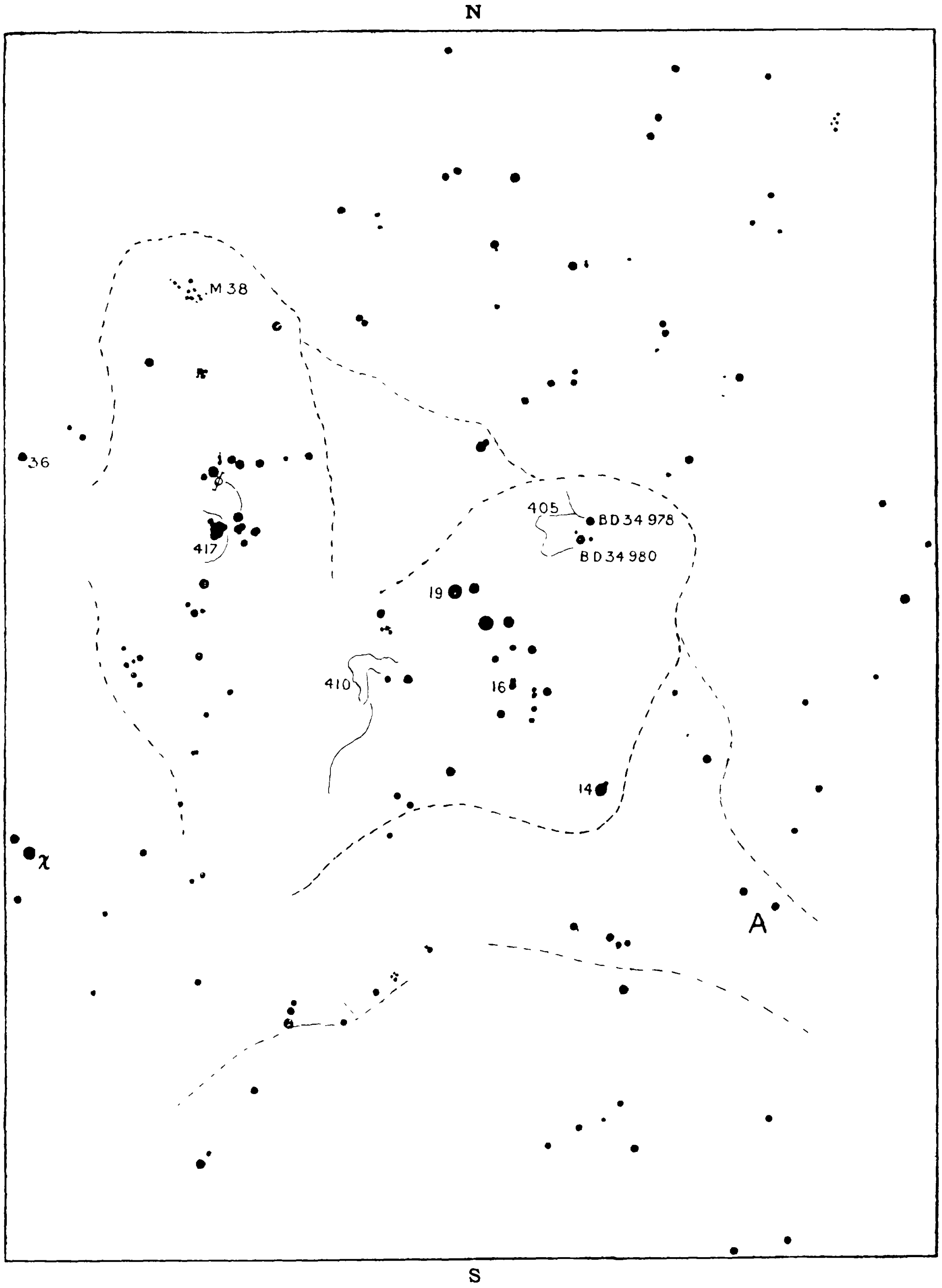
KEY MAP.



NEBULOSITIES IN AURIGA.

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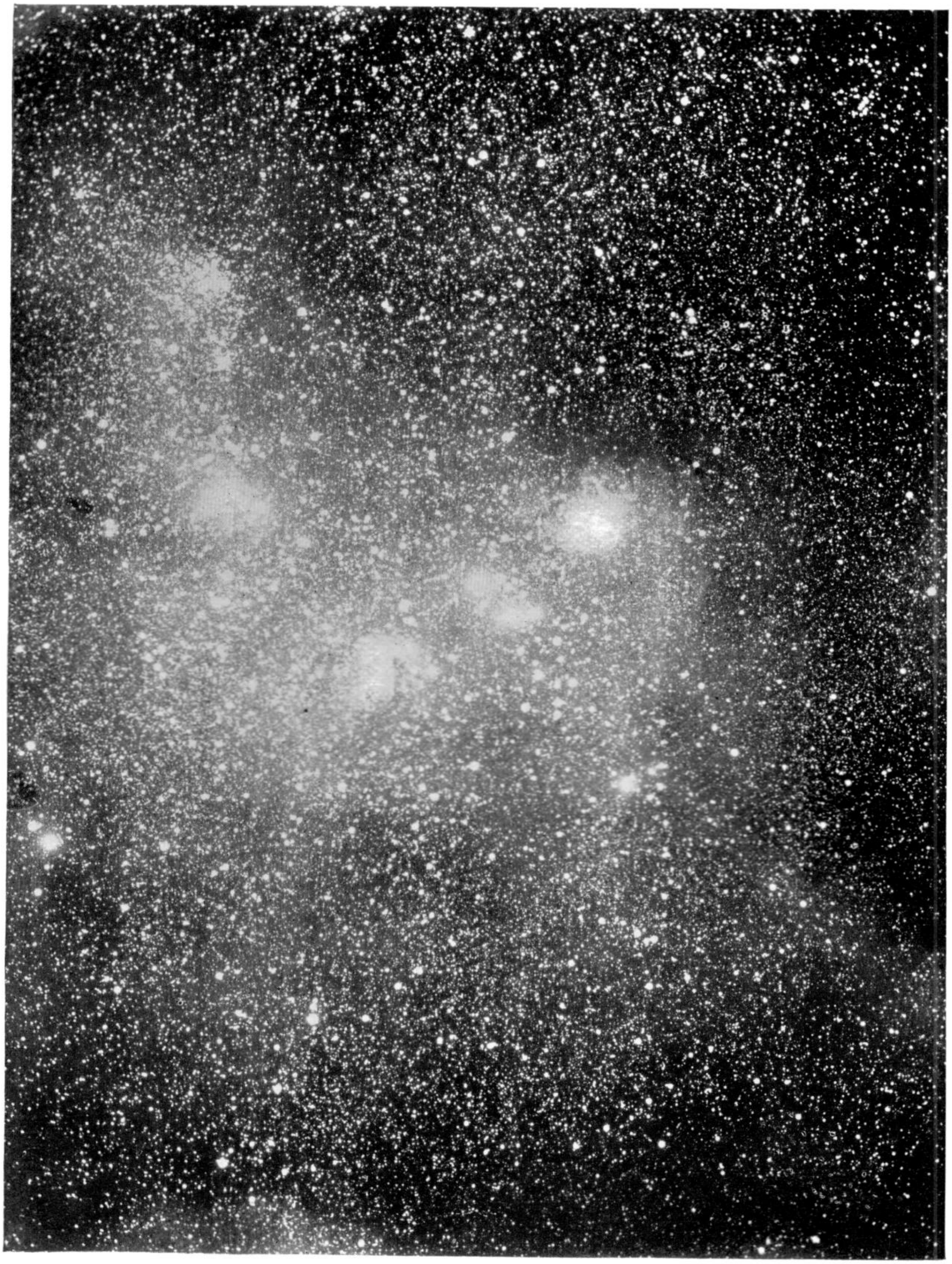

NEBULOSITIES IN AURIGA.

PHOTOGRAPH BY DR. MAX WOLF, HEIDELBERG.

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which form a great V. It looks like a photograph of the V of *Taurus*, the corner shifted somewhat westward.

The five groups are as shown on the key map (proceeding from east to west); first, the splendid cluster, Messier 38 and its accompanying cluster, Herschel VII. 39; second, the group near *ϕ Aurigæ*; third, the great nebulæ Ind. Cat. 410; then the group with the bright stars near 16 and 19 *Aurigæ*; and finally the remarkable nebula Ind. Cat. 405 connected with the B.D. star 34°, 980. Herschel's G.C. 1137 between Ind. Cat. 417 and the star 36 *Aurigæ* is involved in the same luminous matter.

It was in 1892 (September 25 and 30) that I first photographed the nebulæ Ind. Cat. 417, 410, and 405. My present intention is to show the *connection* between all these nebulæ, star groups, and clusters. It will be seen from the plate and key map that the above-named five or six groups are involved in the same nebulosity. This appears to support the theory that nearly all these stars, clusters, and nebulæ are at the same order of distance from our Earth as in similar cases in *Cygnus* and *Orion.*

The nebulæ G.C. 1137, I.C. 417 and 410 show many interesting features, but are much surpassed by the nebula Ind. Cat. 405. The more distant exterior parts of this nebula are of interest as showing the *lacuna-forming* forces of the nebulæ: the north and north-western borders form the boundaries of a great lacuna in which the fainter stars seem to have disappeared. The same is the case with the western borders of the branch A (see key map). The drift is here always from west or north-west towards east. This matter deserves further investigation by careful counts of the number of stars in the different regions.

I only wish to direct attention to the remarkable inner structure of the nebula I.C. 405. My second photograph, of which I send short and long printed pictures,* is enlarged about five times from the original plate without retouching.

The long printed picture shows the interior parts and the disc of the star; on the shorter printed one the disc of the star flows into the surrounding nebulæ, but the more distant nebulæ are quite visible. The large star-disc is B.D. 34°, 980. It looks like a burning body from which several enormous curved flames seem to break out like gigantic prominences. One of these seems to connect B.D. 34°, 980 with the 7·8-magnitude star B.D. 34°, 978.

It seems to me that it would be interesting to examine this "*flaming star*" with the spectroscope, and I hope that my pictures may draw the attention of spectroscopists to this star, which seems physically connected with the nebulous matter.

Koenigstuhl Astrophysical Observatory:
1903 *June.*

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* The detailed structure of the nebula I.C. 405 is, however, better shown in the photograph published by Dr. Isaac Roberts in *Knowledge* for 1903 April. The editors of the *Monthly Notices* have therefore not considered it necessary to reproduce Dr. Wolf's enlarged photographs.

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Further Observations of the New Star in Auriga, with the Mean Magnitudes for the years 1892–1903, from estimations made at the Radcliffe Observatory, Oxford.

(*Communicated by Arthur A. Rambaut, M.A., D.Sc., F.R.S., Radcliffe Observer.*)

The observations of Nova *Aurigæ* given in this paper are in continuation of those published in the *Monthly Notices*, vol. lxi. p. 543. Estimations of the magnitude of this star have also appeared in vol. lii. pp. 430–1, vol. liii. pp. 33, 34, 126, vol. lv. p. 164, vol. lvi. p. 234, vol. lviii. p. 180, and vol. lix. p. 258.

A further decrease of brightness was noted at the beginning of this year, when the object proved a very difficult one with the ·10-inch Barclay telescope.

1902 Dec. 31. 11^h 45^m G.M.T. Barclay Equatorial, power 90.

Nova fainter than any of the comparison stars in the chart (*Monthly Notices*, vol. lii. p. 431).

Nova = *c′* near *c*, or M of Burnham's list (*Monthly Notices*, vol. lii. p. 435). M was estimated on 1900 Nov. 17 in the Barclay 0·2 mag. fainter than *p* (*Monthly Notices*, vol. lxi. p. 543).

Nova visible in glimpses, and seen best by averted vision (R.).

1903 Jan. 2. 11^h G.M.$\overset{?}{\text{T}}$. Barclay Equatorial, power 85.

Nova fainter than any of the comparison stars in the chart, but equal to Burnham's M, or *c′* near *c* (Radcliffe chart). (R.)

1903 Jan. 2. 11^h 10^m G.M.T. Power 180.

Nova distinctly seen and equal to Burnham's M, or *c′*, but slightly fainter than *p*. With this power the star close to the Nova (designated in Burnham's list as B) is just visible, and is very nearly at the limit of vision with the Barclay telescope. The Nova is approximately a magnitude brighter than this star (R.).

The resulting magnitudes of Nova *Aurigæ* are :

	Radcliffe Scale.*	Burnham's Scale.†	Barnard's Scale.‡
1902 Dec. 31	14·5	13·2	12·2
1903 Jan. 2	14·5	13·2	12·2

Observer : R., Mr. Robinson.

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* *Monthly Notices*, vol. lii. p. 431.

† *Monthly Notices*, vol. lii. pp. 433–6.

‡ *Monthly Notices*, vol. lxii. p. 65.

Erratum.—Monthly Notices, vol. lxi. p. 543, sixth line from bottom: *For* between *read* beyond.